

A LIST OF THE SUGAR CANE INSECTS OF NEGROS OCCIDENTAL

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The writer spent the period from August, 1927, to March 1, 1930, in Occidental Negros, P. I., in the employ of the Victorias Milling Co., and the North Negros Sugar Co., in the study of sugar cane insects. The results of these studies include the collection of a considerable collection of sugar cane insects, with many notes upon them. A large number of these species have now been determined by specialists, and it is possible therefore to list the more important enemies of the sugar-cane, and many of the parasites. By listing these at this time sugar-cane entomologists will be able to use the information without having to wait upon full reports.

Through the interchange of planting stocks the sugar-cane pests of Negros have been largely derived from Java, India, and other parts of the Orient.

I have presented the list in the tabular form in order to bring together the species responsible for the various types of injury, and also the determined enemies of each.

SUGAR CANE INSECTS OF OCCIDENTAL NEGROS, P. I.

Nature of damage	Name of insect	Enemies
Root grubs "buc-an" Very destructive	<p><i>Leucopholis irrorata</i> Chevrolat</p> <p><i>Anomala anoguttata</i> Burmeister <i>Anomala humeralis</i> Burmeister</p> <p><i>Autoserica nigrarubra</i> Brancsik <i>Holotrichia mindanaona</i> Brancsik <i>Lepidiota pruinosa</i> Burmeister</p> <p>All of above</p>	<p><i>Campsomeris reticulata</i> Cameron <i>Campsomeris aureicollis</i> Lepeletier <i>Rhizoglyphus</i> sp. <i>Isaria</i> sp. (fungus) <i>Cordyceps</i> sp. (fungus) Probably <i>Campsomeris annulata</i> Fabricius <i>Campsomeris annulata</i> Fabricius <i>Campsomeris marginella modesta</i> Smith</p>
Large root destroyers	<p>A cicadid larva <i>Gryllotalpa africana</i> Pal. Beauv. <i>Thibops</i> sp. (Cerambycid) ?</p>	<p>The crow, <i>Corone philippina</i> Bonaparte The lark, <i>Alauda wattersi</i> Swinhoe Probably the blind snake <i>Typhlops braminus</i> (Daudin) eats the eggs</p>
Root corrodors	<p>Collembola undetermined Lepismids undetermined Molluscs undetermined</p>	
Root suckers: Bugs	<i>Macroscytus transversus</i> Burm.	

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Root suckers, cont. Leaf hopper Aphid Mealy bug Scale Nematodes	<i>Stibaropus molginus</i> Schiödt <i>Oliarus impeditus</i> Muir <i>Tetranetra lucifuga</i> Zehntner <i>Trionymus sacchari</i> (Cockerell) <i>Antonina indica</i> Green <i>Cacorema radicaicola</i> <i>Tylenchus similis</i> <i>Macrotermes gilvus</i> Hagen <i>Microcerotermes losbanosensis</i> Oshima	
Seed cane injuries Termites	<i>Coptotermes vastator</i> Light <i>Alyssonotum pauper</i> Burmeister <i>Eutochia lateralis</i> Boheman	<i>Odontoponera transversa</i> (F. Smith)
Beetles primary	<i>Gonocephalum depressum</i> Fabricius <i>Gonocephalum adpressum</i> Germar <i>Carpophilus dimidiatus</i> Fabricius	
Perhaps secondary	<i>Odontoponera transversa</i> (F. Smith)	
Ants nesting in stools Some good Some bad	<i>Polyrhachis dives</i> F. Smith <i>Camponotus maculatus taylori</i> Forel <i>Monomorium pharaonis</i> Linnaeus <i>Dolichoderus bituberculatus</i> (Mayr) <i>Odontomachus haematodes</i> Linnaeus <i>Solenopsis geminata rufa</i> (Jerdon)	Strepsipteron

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Miscellaneous stool inhabitants	<p><i>Oligomyrma</i> n. sp. <i>Tapinoma melanocephalum</i> Fabricius Large centipedes Spiders Slugs Dipterous leaf miner Flea beetle <i>Aphis sacchari</i> Zehntner <i>Aphis maidis</i> Fitch <i>Olethreutes schistaceana</i> Snellen</p>	<p><i>Trichogramma nana</i> Zehntner <i>Microbracon chilonis</i> (Viereck) <i>Chelonus albicinctus</i> Ashmead <i>Goniozus</i> sp. Tachinid species</p>
Young shoot injury Dead heart moth borers	<p><i>Diatraea infuscatella</i> Snellen</p>	<p><i>Phanurus beneficiens</i> Zehntner <i>Trichogramma nana</i> Zehntner <i>Trichogramma minutum</i> Riley <i>Microbracon chilonis</i> (Viereck) <i>Apanteles flavipes</i> Cameron <i>Goniozus</i> sp. Tachinid sp.</p>
Both of above probably <i>Sesamia inferens</i> Walker and		<p><i>Anisolabis stali</i> Dohrn Egg parasite undetermined</p>

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Moth borers, cont.	<i>Sesamia uniformis</i> Dudgeon	<i>Microbracon chilonis</i> (Viereck) <i>Apanteles flavipes</i> Cameron
Beetles, fly-borer	<i>Siboga falsella</i> Snellen <i>Diatraea venosata</i> Walker <i>Amata deflocca</i> Swinhoe An Acronyctine n. sp. An anthomyiid <i>Alyssonotum pauper</i> Burmeister <i>Eutochia lateralis</i> Boheman Aleocharinae <i>Europs</i> sp. <i>Hemipeplus</i> sp.	<i>Ipobracon</i> sp. perhaps <i>famulus</i> Bingham <i>Xanthopimpla enderleini</i> Krieger <i>Kriegeria heptazonata</i> Ashmead
Dead heart scavengers, etc.	Numerous flies as yet undetermined <i>Tyroglyphus</i> sp. <i>Histioglyphus</i> sp. <i>Uropoda</i> sp. Parasitidae (mites) Collembola.	
Stalk injuries Moth borers	<i>Topentis intacta</i> Snellen <i>Topentis auriflua</i> Zeller and	<i>Phanurus beneficiens</i> Zehlntner <i>Eripteronomorpha javensis</i> Rohwer

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Stalk injuries, cont.	<i>Topentis</i> spp. cont.	<i>Elasmus zehntneri</i> Ferriere <i>Stenobracon trifasciatus</i> Szepilgeti <i>Hormiopterus schoenobii</i> Rohwer <i>Aspergillus flavus</i> (fungus) See above under dead heart
Moth borers, cont.	<i>Sesamia uniformis</i> Dudgeon <i>Sesamia inferens</i> Walker <i>Olethreutes schistaceana</i> Snellen <i>Diatraea venosata</i> Walker <i>Diatraea infuscatella</i> Snellen <i>Trochorhopalus strangulatus</i> Gyllenhal	See above under dead heart
Weevil	<i>Xyleborus perforans</i> Wollaston	See above under dead heart
Shot hole borers	<i>Xyleborus</i> near <i>luzonicus</i> Eggers <i>Coptotermes vastator</i> Light	Tachinid
Termite	<i>Eutochia lateralis</i> Boheman	<i>Rattus concolor</i>
Node girdlers and bud worms	<i>Opogona dimidiatella</i> Zeller <i>Ereunthis</i> sp.	
Suckers	<i>Trionymus sacchari</i> (Cockerell) is attended by <i>Dolichoderus bituber-</i> <i>culatus</i> (Mayr)	Chalcid parasite <i>Haptonchus luteolus</i> Er. and <i>Carpophilus</i> sp. are associated <i>Aspergillus flavus</i> (fungus disease)
Mealy bug	<i>Pseudococcus</i> sp.	
Scale	<i>Aulacaspis tegalensis</i> (Zehntner)	Chalcid parasite

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Nature of damage	Name of insect	Enemies
Leaf injury	<i>Aulacaspis</i> , cont.	Coccinellid predators
Juice suckers	<i>Aphis sachari</i> Zehntner attended by	
Aphids	<i>Polyrhachis dives</i> F. Smith and	
	<i>Solenopsis geminata rufa</i> (Jerdon)	
	<i>Aphis maidis</i> Fitch	Chalcid parasite
	<i>Oregma lanigera</i> Zehntner attended	<i>Micromus pusillus</i> Gerst.
	by <i>Polyrhachis dives</i> F. Smith	<i>Cryptoblabes</i> sp.
	<i>Dolichoderus bituberculatus</i> (Mayr)	<i>Synonycha grandis</i> Thunberg
	Juices attacked by <i>Capnodium</i>	Braconid parasite, several Coccinellids
	fungus	
Scales	<i>Chionaspis depressa</i> Zehntner	
	<i>Icerya</i> n. sp.	
	<i>Icerya seychellarum</i> Westwood (oc-	
	casional visitor)	
White flies	<i>Neomaskellis bergii</i> Signoret attend-	Chalcid parasite
	ed by <i>Dolichoderus bituberculatus</i>	
	(Mayr)	
	<i>Polyrhachis dives</i> F. Smith	
	<i>Aleurolobus barodensis</i> Maskell	
	<i>Aleurodes lactea</i> Zehntner	
	Several species undetermined	
Thrips	<i>Paratetranychus ericcator</i> Zehntner	
Mite	<i>Perkinsiella vastatrix</i> Breddin per-	
Leaf hoppers		Three species of egg parasites

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Juice suckers, cont.	<p>haps inoculates red rot <i>Colletotrichum falcatum</i></p> <p><i>Proutista moesta</i> Westwood inoculates <i>Cercospora</i> leaf spot</p> <p><i>Lophops carinatus</i> Kirby</p> <p><i>Ricania teniata</i> Stål</p> <p><i>Ricania proxima</i> Melsheimer</p> <p><i>Tettigoniella spectra</i> Distant</p> <p><i>Cosmopteryx pallifasciella</i> Sn.</p> <p><i>Monochirus callicanthus</i> Bates</p> <p><i>Cosmopteryx dulcivora</i> Meyrick</p> <p><i>Atractomorpha psittacina</i> Haan</p> <p><i>Euconocephalus nasutus</i> Thunb.</p> <p><i>Aeolopus tamulus</i> Fabricius</p> <p><i>Mecopoda elongata</i> Linnaeus</p> <p><i>Locusta migratoria</i> Linnaeus</p> <p><i>Phaneroptera furcifera</i></p> <p><i>Liogryllus bimaculata</i> DeGeer</p> <p><i>Rhaphidophora deusta</i> Brunner</p> <p><i>Laelia suffusa</i> Walker</p> <p><i>Parnara nondoa</i> Plotz</p> <p><i>Parnara mathias</i> Fabricius</p>	<p>Dryinid <i>Paederus fuscipes</i> Curtis Predatory bug</p> <p>Egg parasites</p> <p>Strepsipteron Parasite</p> <p>Parasite</p>
<p>Leaf eaters: miners in blade</p> <p>Miners in midrib</p> <p>Chewers: Grasshoppers</p>		
Crickets		
Lepidoptera		
		<p>Tachinid</p> <p>Tachinid</p>

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Leaf eaters, cont.	<p><i>Parnara</i>, cont. <i>Padraona nitida</i> Mab. <i>Melanitis leda</i> Linnaeus <i>Mycalis mineus</i> Linnaeus <i>Marasmia trapezalis</i> Guenee <i>Spodoptera mauritia</i> Boisduval <i>Laphygma exempta</i> Walker</p>	<p><i>Bracon aliquei</i> Ashmead Chalcid <i>Apanteles</i> sp. with hyperparasite <i>Diaglypta prodentiae</i> Ashmead <i>Apanteles antipoda</i> Ashmead <i>Microplitis manilae</i> Ashmead <i>Apanteles taragamae</i> Viereck</p>
Miscellaneous Lepidoptera caught on cane	<p>Undetermined leaf feeder <i>Utetheisa pulchella</i> Linnaeus lays eggs on cane but feeds on <i>Heliotropium indicum</i> <i>Pyrausta nubilalis</i> Hübner twice taken ovipositing on cane <i>Zinckenia fascialis</i> Cr. <i>Craspedia actuarua</i> Walker <i>Calogramma festiva</i> Donov. <i>Dinara combusta</i> Moore <i>Crambus malacellus</i> Dup. <i>Nymphula fluctuosalis</i> Zeller <i>Pyrausta nubilalis</i> Hübner twice <i>Eretmocera percnophanes</i> Meyrick</p>	

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Cane flower insects	<p><i>Balclutha</i> sp. <i>Macrosiphum</i> near <i>granarium</i> Kirby <i>Euryps</i> sp. Collembola Geometrid <i>Proreus simulans</i> Stal <i>Anisolabus stali</i> Dohrn <i>Mareta humberiana</i> Saussure <i>Blattella</i> near <i>germanica</i> <i>Hierodula patellifera</i> Serv. <i>Statilia maculata</i> Thunberg <i>Ropalidia</i> sp. <i>Cecidomyiid</i> larva feeding on spores of <i>Uromyces kuhni</i> Krueg. cause of cane rust</p>	<p><i>Entomophthora forficulae</i> Egg parasites Egg parasites Egg parasites Egg parasites</p>
Miscellaneous cane insects		
Predators		
Roaches		
Mantids		
Wasps		
Fungus feeder		
Spiders		
	<p><i>Cyclosa melanura</i> Simon <i>Cyclosa insulana</i> Costa <i>Thomisus laglaizii</i> Simon <i>Heratemis chrysozona</i> Simon <i>Tetragnatha hasselti</i> Thor <i>Argiope aemula</i> Walek <i>Ischnocolus insularis</i> Simon <i>Plexippus paykulli</i> A. & S.</p>	